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THE RELATIONS OF MEDICINE

TO

MODERN UNBELIEF.

A VALEDICTORY ADDRESS,

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PRESENTED

AUTHOR.

DELIVERED TO THE



MEDICAL AND LAW GRADUATES AT THE THIRTY-NINTH COMMENCEMENT OF
THE UNIVERSITY OF LOUISVILLE, HELD IN PUBLIC
LIBRARY HALL, MARCH 1, 1876.

LOUISVILLE:

PRINTED BY JOHN P. MORTON & COMPANY.

1876

UNIVERSITY OF LOUISVILLE, March 9, 1876.

PROF. COWLING:

We, the undersigned committee from the University Summer School of Medicine, respectfully ask of you, for publication, a copy of your address delivered at Public Library Hall, on the afternoon of the first, to the graduates of the University of Louisville.

Respectfully,

S. C. MAKEMSON, Ill.,

J. R. FARRA, Md.,

CHAS. L. LOUCKS, N. Y.,

B. SAUNDERS, Texas,

J. M. CLARK, Miss.,

J. D. SPROWLE, Ala.,

G. L. LILLY, Ky.,

J. E. RENNER, Germany,

GEORGE CANNON, Ind.,

P. J. MAXCY, *Pres't*,

V. P. ARMSTRONG, *Sec'y*.

LOUISVILLE, KY., March 12, 1876.

GENTLEMEN:

I beg leave to hand you the desired copy of the address. With many thanks for the compliment of your note, I am,

Very sincerely yours,

R. O. COWLING.

To P. J. Maxcy, V. P. Armstrong, S. C. Makemson, Chas. L. Loucks, and others,
committee for the Summer Class.

THE RELATIONS OF MEDICINE TO MODERN UNBELIEF.

Mr. President, Ladies and Gentlemen :

The union of the commencement exercises of the law and medical departments of the University of Louisville marks a pleasant era in its history. It seems strange that it should have been deferred so long. It is highly proper that those who draw their commissions from a common source should see something of each other before they start on their separate paths. Let us hope that the union which takes place to-day may increase the ideas that our graduates entertain of the importance of their alma mater, and strengthen their loyalty to her.

It would be well indeed if lawyers and doctors could, in a way not professional, see more of each other during life. There is much about either profession which is well worth knowing by the other, and I am quite certain there exists between them a little misconception just now.

A doctor can but grant with all the world that the profession of the law is learned, but it must be that he has some wrong ideas about it in other respects. He associates it at times with great inconvenience, with long hours spent in court-rooms, when he has been so unfortunate as to be a medical witness; with writs and attachments against his person, should he have merely forgotten the first polite invitation to attend. He recalls strange questions which were put to him to answer, varying in so much as they came

from opposite sides, putting him to the proof of matters which he had considered as axioms; as, for example, what reason he has to suppose that people may not pass through a comfortable existence with their brains out, or how he can swear that his valuable aid did not really assist in letting out the ghost of some unfortunate, or making him recall the anatomy of his school-days or contradict learned authorities of his own guild; forcing him to mark the notch where a sane man leaves off and a crazy one begins, and show cause why a person preferring to walk around on his hands instead of his feet should be charged with being eccentric, or whether the fact of a client's having slain an adversary or so does not prove him to be as mad as a March hare. When he thinks of the sick chamber where he holds his court, of which he is judge, jury, and sheriff combined, and where he gives no reason on compulsion, such circumstances as I have related are apt to give him strange notions of the law. Or if he be more directly interested he may hold most erroneous opinions of justice. Should he be so unfortunate as to be charged with malpractice, he does not see why joints should become stiffer or limbs more crooked in a court-room than elsewhere, or that a simple failure of his art should make him the guiltiest wretch alive. Or again it may be that in the division of a post-mortem estate between his brother of

the law and himself—when there turns out to be half a crop only—he can not see why his share is to come out of the part that is missing. Such affairs as these make him conceited enough to think that the next time the law-books are made doctors could throw great light upon the subject.

Exactly what lawyers think of medicine I can not answer. In spite of any inference which might be drawn from remarks I have made, I know that for doctors they have, both in and out of court-rooms, the kindest personal consideration. I believe, though, they are apt to underrate the sources of knowledge and methods of study in the sister profession, and to rank medicine—rather naturally, perhaps—considerably below the law as an exact science.

Herodotus relates that it was the custom of a certain people to expose their sick at the doors, so that the passers-by might tell them what was good for their complaints. A similar method is still in vogue with a great many persons, as every doctor knows to his annoyance. Lawyers are too well informed to think we have not improved on this method of learning disease. Indeed one of the best estimates of this sort of practice I ever heard was related to me as coming from a member of the bar, the brilliant George Alfred Caldwell. During his service in Mexico he contracted a rheumatism, from the effects of which he suffered for many years. To a friend who, on meeting him one day, expressed his sorrow at seeing him in pain, Mr. Caldwell replied, "I am much obliged to you for your sympathy; every body else has given me a remedy."

I enter into no discussion as to which is the more exact science, law or medicine. Both are but human pursuits. If men die in spite of doctors, so upper courts reverse the opinions of lower ones. The same laws of evidence apply to both professions. There is in medicine even a larger field for the collection of facts than there is in law. Thousands may never see a court-house; few escape the doctor. Men of mind have been

attracted by one pursuit hardly more than by the other. The English bench has produced no superior to John Hunter. Paget is the peer of any man at the British bar in soundness of learning and indeed in eloquence. No American lawyer is more highly esteemed by you than Dr. Gross is esteemed by our profession. Or, to come nearer home, brilliant as has been the talent of the Louisville bar, I doubt if it has produced any greater man than was Dr. Lewis Rogers. No, gentlemen, you would make a great mistake if you were to underrate medical science, either in its processes or in its results, especially now in the most active period of its existence.

Art is terribly long in either profession. Lawyers and doctors have work enough to do in fitting themselves for their special callings, without invading for mere curiosity the territories of each other. But on the common ground where law and medicine meet they can spend much time to professional advantage, and learn many things to engender mutual respect. If doctors would acquaint themselves more with the jurisprudence of medicine, they would often be more competent and comfortable witnesses; and if any thing were needed in the conduct of cases beyond the sense of moral responsibility—which I hope is only exceptionally absent—they would know better than they sometimes seem to do how much the law expects of them. If lawyers gave more time to the study of forensic medicine than some of them seem to desire, they would gain many an advantage upon points I have seen lost. When they do, if they will show me any law-book, from the Pandects down to the Revised Statutes of Kentucky, which surpasses in its way our man Caspar's treatise on this subject, great as will be the loss to the community, I agree to forswear medicine.

But, gentlemen, the novelty of the occasion has led me far away from my purpose. My commission here was to represent the faculty of the medical department; to present their congratulations to these young doctors, and address them in our special

field. I fear I have spent an unreasonably long time in reaching my proper place.

Though strangers to most of you, we are in a common school; and were we not, I could not but share your feelings upon this occasion. I hope that whatever be your aspirations you may reach them, whether you look forward to crowded dockets, judicial ermine, or a listening senate, and that yours may be useful and happy lives.

I need not tell you, gentlemen of the medical class, that there is much in medicine. You know already, from what you have seen, not only the beneficence of its offices, but the scope it offers for the intellect. You may spend a long and a useful lifetime in the study of the lessons it affords you. At best the learning one gets in the schools forms but a foundation upon which to build. I need not elaborate the well-worn theme upon the necessity for labor in the field you have entered. You will soon see that the competition of the world far exceeds that of the class-room, however close you may have conceived that to be, and that the laggards soon drop out of the race. We have accomplished nothing during your stay with us if we have not indicated to you the activity of the medical age in which you commence your professional life. That the faculty of the medical department entertain toward you feelings of the warmest personal regard, and that they sincerely congratulate you upon the successful issue of your studies, you know already without assurance from me. They look to you also to reflect honor upon their teachings and upon the institution from which you receive your degrees; and they feel that their hopes are not vain.

It is my intention to place before you this evening a subject different from those which usually form the themes of valedictory addresses. The importance of it I know you can not underestimate; nor will you regard the matter as out of season upon an occasion like this. I mean the relations of medicine to modern unbelief.

The charge is an old one that medicine and unbelief are closely related. It is a quite ancient saying that "wherever three doctors are gathered together there will be found two infidels." Sir Thomas Browne, in his "*Religio Medici*," written more than two hundred years ago, declares that irreligion or no religion is the common scandal of his profession. This may seem to you a singular charge to make against the profession you have just entered, of which no doubt you have already conceived notions the most opposite to this. Certainly the charge is a serious one. It may be a superstitious belief on my part that were it true it would rob medicine of its dignity; for of what great use would it be to repair the machine which carries life if when it ran down, while its joys would indeed be ended, there would still be eternal respite from its cares. The charge comes with double force in times like these, when we hear so much about the conflict of science with religion.

I need not detain you by discussing whether or not the conflict between religion and science should exist. Of course, as truth is the ultimate object of each side, they must harmonize at last if both can reach it. It can not be denied that there is a struggle along the path. Science may say that it does not attack religion—that, pursuing her end independently, no matter what hopes or fears are crushed, she is already willing to acknowledge religion and merely rejects theology. But the religion she acknowledges is so much unlike the old religion that one would scarcely know it by that name; and at last the theology that is rejected—by her advance guard at least—is no longer that of the schoolmen or the creeds of churches, whether of Rome or Oxford or Geneva, but it is the source from which all are declared to spring—the asserted revelation of God.

Religion may declare that, sure in the foundation of her faith, she has nothing to fear from investigation, come from what quarter it may; but she is alarmed, and has just cause to be alarmed, if not at the inroads of science (which is but another

name for truth), at least at the incomplete deductions of scientists. In spite of declarations to the contrary, these scientists have stepped beyond what they declared to be their independent path to indulge in criticisms upon her pretensions, and have robbed her of some of her empire over the hearts and minds of men. And she has the greater cause for alarm not only from the signal ability of those opposed to her, but from the honesty and purity of character that many of them possess.

If the charge I have named against the doctor be true, religion has here a double attack to ward off. Medicine has been asserted to be an old recusant, but she is now re-enforced by a brilliant ally of comparatively far more modern date. It is not my purpose, even if I could do so, to put the whole of this warfare before you. My present concern is to examine, as well as I may, what there is in the profession of medicine that could subject it to such a charge, and to see what special aid and comfort has been lent to it by modern science.

Probably a good plan to find out whether there is any truth in the old saying I have quoted would be to adopt the numerical method, as we do at times in other questions connected with medicine, and to take the vote among doctors. By this plan, so far as my immediate knowledge extends, religion would win. Of my acquaintance there are some who are distinctly atheistical, but not many; others who worship the Unknown, "leaving hoping and fearing alone;" a number who have no decided opinions upon the subject; but the most would say that they are believers. But the brigade of doctors who live in this community or with whom I have come in contact represents but a small portion of the grand army fighting against disease. We know, by common report at least, that men of mark in our profession are ranged upon each side. The men who are accused of giving this ball of unbelief a new impulse were many of them educated in medicine. On the other hand, sturdy belief has been represented by

doctors of no less mark. We may not note such men as Trousseau, Simpson, and Watson, who, while they have been such a glory to our profession, have none the less expressed the most orthodox belief. The period of their activity was before the processes of modern science had been so much developed as they have been of late. Sir James Paget, however, offers a striking example of a believing doctor. He is fairly among the foremost of our profession, and his habits of study have been much of the same character as those of the modern scientists. While his close inspection of the ultimate elements of disease has not, as has often happened, impaired his powers as a clinical surgeon, in which class he has few equals, it has not shaken his belief in the God that made us. His writings abound in repeated expressions of a Christian character.

There are a great many doctors, and medicine may be but an epitome of the world. Just as science has but a small portion of general infidelity to answer for, so the unbelief that exists in our profession may not be accounted for by the studies we pursue. The fact is that there is a small number of doctors who do not study at all.

The same causes may operate upon the physician as upon any one outside of the profession to foster him in belief or unbelief; but, supposing the question excites his curiosity to inquiry, what will the doctor find among the objections of modern science to strike him?

One of the principal charges made by science against the Bible is its inaccuracy in scientific matters. The biblical account of the universe, it is charged by science, is not at all up to the modern standard, especially in geology and astronomy, and is several millions of years short in the computation of the age of man. I am too deficient in both science and theology to give a very profound opinion upon these matters. My notion, perhaps crude, is that the Bible was not intended to instruct men in matters of this sort, but that its special field is religion and morals. It seems to me that the state-

ments in the Bible, given in terms so general, might easily be reconciled with the deductions of science if there existed a hearty desire to do so. Suppose they had been written in the language of the modern schools, how extensively would they have been understood? and suppose they agreed with the received opinions of to-day, what hopes of stability would they have fifty years from to-day? Whether the sun really stood still for Joshua, or only appeared to stand still, seems to be a matter of small importance. Light was the only object in view. In regard to the antiquity of man, I do not know that it is disputed by the Bible. Archbishop Usher's chronological computation seems to have gone overboard. But in the Bible's chosen field of religion and morals it is just to suppose that, had that congress of savans which sat so long in deliberation over the bone they found beneath the gravel-pits in England continued their sittings to the present day, they could not, out of their own consciousness or from knowledge derived from other sources, have produced a single one of those books left us by the unlearned fishermen of Galilee.

Science dispenses with the necessity of special creation and substitutes in its stead evolution. She finds that gradation marks all natural laws. The orthodox believer, looking upon this gradation, sees in it the perfectness of the divine plan; but science discovers in it natural outgrowth, one order springing from the preceding or all the preceding, as the result of "the survival of the fittest" in an eternal warfare for existence. Life starts in monads, in bioplasms and protoplasms; and, entrenching herself behind these learned ultimate elements, science laughs at the simple faith that would accept the very general terms given in the Mosaic account, which provides for all forms of existence a God. It is simply a matter of taste, it seems to me, which side calls for the most credulity; and, even if the truth of evolution were made out beyond the shadow of a doubt, it does not dispense with the notion of God behind it all. Darwin,

its author, is, I believe, still a member of the Church of England. The idea of advancing from one form to another by inherent force having no starting-point strikes me as very like that of the philosophic individual who strove to lift himself over the fence by the straps of his boots. Science laugh at the credulity of religion!

Now look at this little example in evolution. I do not know the rank of the author of the statement, but it appeared in the *Popular Science Monthly*, the exponent of modern science in this country, and about one of the most entertaining magazines published in any country. It was headed "Is Evolution Visible?" The writer noted the habits of a mud-minnow contained in his aquarium. He saw that its side-fins inclined downward; that it had a habit of resting these upon the bottom of the tank, and did not amuse itself overmuch in swimming about. He found that it could live longer out of water than any other known fish—thirty minutes or so. Upon the strength of these observations he saw the representative of that mud-minnow in ages to come spurning the element which its ancestors inhabited, and, with these fins elongated into legs, parading some Fourth Street of the future. Who will be on hand to disprove this?

The doctrine of evolution is a great stronghold of the scientist, and is supposed to give great comfort to disbelieving doctors. Before I dismiss it I must put before you ~~Henry~~ Martineau's words to show you, however well it may account for the physical growth of man, how utterly incompetent it is to explain his moral nature: "If the coarse and turbid springs of barbarous life, filtered through innumerable organisms, flow limpid and sparkling at last, the element is still the same though the sediment be left behind; and as it would need a diviner power to turn the water into wine, so prudence run however fine, social conformity however swift and spontaneous, can never convert themselves into obligation." And of compassion he says it is "the instinctive response to the spectacle of misery which has a two-

fold expressiveness; it is in us a protesting vote against the sufferings we see and a sign of faith that they are not ultimate but remediable. . . Compassion institutes a strange order of servitude. It sets the strong to obey the weak, the man and woman to wait upon the child, and youth and beauty to kneel and bend before decrepitude and deformity. How then do the drift and faith of this instinct agree with the method of the outer world as now interpreted? Do they copy it exactly and find encouragement from the great example? On the contrary, nature, it is customary to say, is pitiless, and while even moving on makes no step but by crushing a thousand-fold more sentient life than she ultimately sets up, and sets up none that does not devour what is already there. The battle of existence rages through all times and in every field, and its rule is to give no quarter—to dispatch the maimed, to overtake the halt, to trip up the blind, and to drive the fugitive hosts over the precipice into the sea. Nature is fond of the mighty and kicks the feeble; and, while forever multiplying wretchedness, has no patience with it when it looks up and moans."

Science objects to the bigotry of religion, saying she will listen to no teachings besides her own, and points to her martyrs for free thought. Is science so catholic in her studies as she pretends? She despises theology, and in her chosen field of visible nature she inclines vastly to a single mode of study. Her object is the resolution of all things into their elements; she sees nothing in their present beauty. She delights in the discovery of the debasement of man; rejoices that we are brother to the toad. Of little moment to her are the beauties of constitutions for the protection of liberty, but of vast moment the rude customs from which they have sprung. The arts of the painter and the sculptor she reckons among playthings not worthy of regard in comparison with barbaric decoration. Language for the use and pleasure it brings she does not count for much; but show her the missing links which join its rudest syllables

to the yelp of beasts, and you will rank among the greatest of benefactors. If religion takes man as she finds him, and dwells most upon the beauties of the soul, science sees nothing in this but superstition. If religion teaches that man has a heart, science ranks this heart among the imperfections of his nature. She deifies mind, speaks sneeringly of the emotions.

Religion—or rather theologians of different forms of faith—has indeed made martyrs to science, and of men, too, who were of her own most humble followers. There is of course no excuse for this save ignorance. Religion plays for a great stake. It is natural that the passions should be stirred most violently for objects which are held most dear. Science has never had the temptation to persecute, for as yet she has never been in power. We can scarcely believe that were her tenets as generally received as are those of religion she could rule men's actions as well. The world has a great deal to fear from justice. Has not science indeed an everlasting debt of gratitude to pay religion, which has so ameliorated the condition of men by appealing instinctively to their natures? Could the processes of her intellection, in the wildest dreams or hopes of her votaries, if indeed these do ever dream or hope, establish an empire in any comparison so vast and so beneficent?

I am fully aware that modern science has more objections to the claims of religion than those I have stated, and that its advocates would be ready, did they consider it worth while, to deny much of what I have asserted. They might say that hypothesis and faith are different matters. And so, on the other hand, are hypothesis and fact. On account of opinions which are acknowledged to be liable to change, is it safe to throw over matters so awful as those presented to us by religion? It may be asserted that science places a proper estimate upon the emotions. I can only say that it seems to me that it does but patronize them; that it would consider the perfect soul that which, free from all bias, not only of hate, but of

love, could view all things through the cold, clear atmosphere of the reason. Mortal man is not made of that nature.

Again, science may declare that the analytic method of study is the correct one, and that, even if it were not, it has adopted also the synthetic plan. No one who reads the essays upon modern science can help thinking that its strong bias is in the direction I have named; and it does seem certain that results obtained in this way are distorted. I do not imagine that reconciliation between science and religion is likely to take place by arguments. God is not to be found by searching in this manner. The union of the natural and the supernatural is not likely to take place on the basis of this sort of reasoning alone. The points I have placed before you are those in modern unbelief which appeared to me to be fitting in the special theme we have chosen. Let us see how they bear upon medicine.

Whatever objections can be raised to the astronomy or geology of the Bible, you can rest assured, gentlemen, that it contains much sound medicine. Reject as much as you please the miracles of the New Testament, the raising of the dead, the cure of the blind and of the lepers, etc., you can not but be struck with the correctness of its natural medicine, as in the sanitary laws prescribed for the Jews. You will recollect that, of all branches of medicine, sanitary science ranks highest, and is comparatively of quite modern cultivation. Moses was several thousand years ahead of the doctors in this respect. Even in this day the question has been seriously discussed whether the Jews do not enjoy an immunity from disease greater than that enjoyed by any other people. For the standing of Moses as a statesman and a lawgiver, I refer you to a recent address by Mr. Proctor Knott. I am just now concerned with doctors only.

Let us see how far this matter of faith governs doctors in their practice. No man can have greater respect for his profession than I have for my own. I know its beneficence and how great the field it offers for

the intellect. We may point with pride to the great men medicine has produced. We have seen these same men win equal triumphs when their thoughts were directed to other fields. Medicine is surely limiting the territory of disease and pain. It would not have been pursued in vain if it had produced only Jenner and Wells, Morton and Simpson. It carries every moment comfort to thousands. Doctors fairly earn their bread. Still I know, from the nature of things, that medicine is now, and must be for a time to come, comparatively an imperfect science, and that to-day, just as in Bishop Butler's time, men calculate the movements of the heavenly bodies with greater exactness than they do those of themselves.

If science, even in its most exact branch, mathematics, calls continually upon our faith, what have we to say in this respect for medicine? Herbert Spencer, in his *First Principles*, in which he reduces every thing in science and religion back to the unknowable, had many steps to take in some of the examples he has chosen. If he had tried his hand once on Fever he would not have had very far to go before he reached the end of our present knowledge upon this subject. You have not had given to you, nor is it likely that you will reach, a knowledge of any thing but some of its phenomena. Any definition which is framed of it will simply recite the phenomena. Its essence is far beyond our grasp. Yet half of the practice perhaps to which doctors are called is in fever of some sort. Do we consider it unworthy of our reason to accept the fact that there is such a state as fever? or are we dishonest in directing measures against it? I might multiply examples, with disease after disease, and show how much we rely upon faith, or, if you choose to call it so, hypothesis, and this not only in our notions of pathology, but in the remedies we use. The dogma of catholic medicine is that whatever has cured or relieved may under like conditions do so again. I need not tell you that the instances in which the relations between conditions

and remedies have been so exactly demonstrated as to give rise to specifics are quite few, and that the majority of our prescriptions are made upon probabilities more or less strong. Even in surgery, which ranks as the most positive branch of our science, as soon as we pass from the adjustment of mechanical forces we are at once in the range of probabilities alone.

Surely no doctor can make a fling at religion on the score of faith.

If you pin yourself down to receive nothing which can not be demonstrated to you "through the cold, clear atmosphere of your reason," you will not have a very active life in your profession. If you so receive the teachings of faith in matters pertaining to a temporal existence, why reject them when demanded for the one that is eternal? The Bible, gentlemen, offers you grounds for an hypothesis that it comes from God, at least equal to those framed for the practice of your profession.

What aid and comfort does evolution give to unbelieving doctors? There is much in the practice of medicine which may excite honest pride. We may see pain and disease driven away and health and comfort restored; and we may believe that much of this is due to measures instituted by ourselves. The problem may have been a subtle one, and its solution may have given evidence of great intellectual power. We may acquire great influence thereby and obtain rank in the estimation of ourselves and others; but I can not say that the pride of any doctor has been so stimulated that he can say that he knows any thing of life more than it has been given and will be taken away. His daily studies of its phenomena have given him no advantage over the veriest child in "that mystery of which we form a part."

We do not know why we sleep or wake, let alone why we live or die. Evolution can give you no single idea of how life ebbs and flows. They did raise that question once about the change of type in disease, as an apology for the oceans of blood that

doctors used to spill, but they did not make much headway. Just as the remains of prehistoric man resemble greatly such as might be left by the present denizens of the earth, so we know that disease repeats itself and will repeat itself unless changed by our art. There is both evolution and involution in disease, but the limits of the species are not passed. There was a tale going the round of our journals a short time ago that a one-legged man, with a peg-leg belonging to the age of bronze (man and leg), had been dug up on one of the islands of the Mississippi. Whether true or not, we may fairly suppose the amputation of a limb would have created a need for the same support in those days as it does in our own. Evolution gives no comfort, and the correlation of the forces offers poor consolation when life is gone. The light and heat of science will not cause that eye to shine once more or the life-blood to course those veins. The cords of that battery will make at best but a grinning corpse to mock us; and however omnipotent science may be, it can not dry the tears for him who is lost. The doctor has found no substitute for creation.

I have said that science objects to the bigotry of religion; that science accuses religion of receiving no teachings save her own, and of persecuting her children. If medicine should indulge in flings of this sort, let us see how much glass there is in the house she inhabits. Mark you again, gentlemen, that the man who addresses you is a very doctor, steeped to the utmost in the thoughts, or, if you choose to call them so, the prejudices of his kind. Let us see from a doctor's standpoint what is the difference between bigotry and honesty in one's belief.

I have mentioned to you the only dogma that catholic medicine lays down. That we may justly weigh the conditions of disease, we study the body in health by anatomy and physiology, its morbid states by pathology, the range of remedies in the *materia medica*, and the method of their application in therapeutics. We declare that we are ready to

receive light from any quarter. It seems so plain to us that this is the only fair way possible of studying disease that we can not imagine why all the world does not see it. Nothing could shake our faith in our honesty about this matter; and yet how are we affected toward men who have adopted different creeds? You and I, with all the "regulars" in the profession, believe that the water-cure people are at best but mild lunatics, and that the homeopathic gentlemen should confine their practice to one another in the walls of some penitentiary. Believe me, gentlemen, it is no great stretch of the imagination to conceive that if medicine were in power as religion has been, it would take the code of ethics in one hand and a catling in the other, and strive to convert an unbelieving world; and if none of our patent medicine friends should be burned at the stake for vending their infernal wares it would be because their ignorance would melt before this beneficent sun of science. Let not physicians confound bigotry with honesty of belief.

However mistaken I may have been in estimating the results of the analytical method when pursued too far in natural science, I am quite certain that this exclusive plan will not do in medicine. We have an abundance of examples of this in our profession; for medicine has been much affected by the times, and has greatly indulged in this sort of proceeding. Just as it requires something more than a knowledge of the elements of water to save a man from dying of thirst, so it requires something more than a knowledge of the elements of disease to enable us to deal with it successfully. Wonderful as are the revelations of the microscope, and useful as they are in the study of histology, how few are the facts of clinical value that it has presented us! Cancer is now just as deadly, and indeed almost as soon recognized as it was before its cell was discovered.

Such method of study as I have named is the fruitful source of hobbies. I will consider but a single one, for I am greatly

exceeding my time. Valuable as is the thermometer as a means of diagnosis and prognosis, it requires but little observation to see that there is a great tendency among a large and learned party in medicine to extend its revelations beyond their legitimate field into the domain of pathology. The results can not but retard our knowledge in this direction. Dr. Edward Warren, late surgeon-general of the Pasha's army, has lately written quite pointedly upon this matter, showing a tendency by persons in a certain quarter to locate typhoid fever in a man's armpit alone, to regard simply the exaltation of temperature, and to direct measures chiefly against this. Their motto is, there is no fever but heat, and cold water is its prophet.

I can not see, gentlemen, what aid and comfort the methods or discoveries of modern science offer to shake specially the doctor's faith in the ideal, or how the study or practice of his profession should unfit him for the teachings of religion. I can not but think that the old saying about the three doctors and the two infidels is an old lie glibly repeated.

It is a more gracious task to turn from negative reasoning and dwell for a moment upon the positive influences which are brought to bear upon the doctor's heart and mind to excite in him a respect for religion. To Sir Thomas Watson's mind medicine "brings beneath our minute and daily notice that most remarkable portion of matter which is destined to be for a season the tabernacle of the human spirit, and which, apart from that singularly interesting thought, excites increasing wonder and admiration the more closely we investigate its marvelous construction." As you examine this workmanship you can best judge whether its exquisite perfection is the result of intelligence and design, or whether it is the "survival of the fittest" in the infinite whirl of atoms. I point you to no examples of anatomy and physiology. You are too fresh from your studies of their wonders. Every breath that we draw, every muscle that we contract, is a miracle in its kind. You might not believe me were I to

say to you that a modern philosopher has said that "had an optician sent him so imperfect an instrument as the eye, he would have returned it to him." You have seen a great deal, and will see much more of the wonderful adaptations which exist in disease as well as in health. For instance, the callos on fractured bone lasts as long as it is wanted and then disappears. In the repair of the skull bones, where the interposition of this material might press dangerously upon the brain, the gap is filled by membrane alone. So too in functional disorders many of the phenomena we witness are for the sake of preservation. Pain is the monitor for rest, and the bounding pulse and heat of fever are perhaps but the useful struggles against the conditions that produced it. We can explain much by natural laws—all, no doubt, when our knowledge is sufficiently extended—but none the less may the lesson be an impressive one, that He who made all natural laws has provided well for sunshine and for storm.

And what are the temptations to unbelief in the physician's experience? As his physiology teaches him that life rests upon the tripod of the brain and heart and lungs, he would be but a poor doctor who, in dealing with the sick, did not recognize this triple function—if he thought that man is a breathing and thinking animal that does not feel. "The cold, clear atmosphere of the reason" may do for natural science, but will utterly fail where human nature is involved. As the mother's kiss is often the sweetest balm for her children's hurts, so are man's pains often assuaged more by manly sympathy than by any material remedy we can command.

I know there is a false impression about doctors in this respect. Many think that familiarity with scenes of suffering blunts their sensibility. I do not know any profession where this sensibility is kept more alive, restrained though it be within proper limits. The surgeon having the real good of his patient at heart is often a far warmer friend than the hysterical or officious persons who would interfere with his work. I recall the instance of that great surgeon in Phila-

delphia who was not ashamed at his clinic one day to give expression to the tenderest sensibility. When about to perform an operation upon a child—an operation which he had perhaps performed hundreds of times before—as it looked up into his face, wondering what he was about to do, he said to his assistant, "Hide those eyes from me; I can not bear for him to look at me while I cause him pain." I scarcely know a physician whose life is not harassed in times of danger, as he carries with him while the issue is pending a thought which, sleeping or waking, he can not shut out. Call it, if you please, professional pride or self-interest that is at stake, the anxiety is there; and often when a sense of duty performed is to be in the end the only reward—where, if the life which was at stake went out, it would drop into eternity with no ripples beating back into this great world of ours.

And I know no profession which so tends to quicken charity for human weakness and human failings. Whatever physicians may at times say about each other, when people outside of the profession are concerned few juries of doctors would convict.

Need I point to the many examples of devotion that the ranks of medicine have shown? Can it be simply the cause of science that has kept so many men true to the last? Does it not seem to require a spark of that Divine power to have upheld them in the many trials which beset the physician's life, which strengthened them in their patience and fortitude, and sustained them beneath the sharp stings of ingratitude which formed so much of their reward? Our profession is full of such nameless heroes, and has never failed when great deeds were to be done. Does philosophy teach men to seek the pestilence, or to linger on the field when all is lost? The memorial to the surgeon of the Alabama records that "he refused to desert his wounded and sank with the ship." He neither recked of the stings of defeat nor heard the shouts of victory, but the cry of pain beneath those bloody decks chained him till the waters closed over him.

Study your profession, gentlemen, by all lights possible; strengthen your minds by the lessons it offers; pursue your merciful mission, and may you never see that day when these words of Sir Thomas Watson will be reckoned antiquated: "When you have made medicine, as you may, the means of continued self-improvement, and the channel

of health and of ease to those around you, let not the influence you will thus obtain beget an unbecoming spirit of presumption, but remember that, in your most successful efforts, you are but the honored instrument of a superior power; that, after all, 'it is God who healeth our diseases and redeemeth our life from destruction.' "

